AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1.   (Currently amended) An apparatus for optical proximity correction comprising:

a data collector configured to collect source data of an electrical circuit pattern;

an edge line detector configured to detect a plurality of edge lines each of which has a size that is less than a line width of the electrical circuit pattern from the source data;

an edge line modifier configured to modify each of the edge lines so as to prevent an excess optical proximity correction from providing incorrect data; and

a data synthesizer configured to generate pre-correction data from the modified edge lines and the source data, the pre-correction data to be corrected by an optical proximity correction.

2.   (Currently amended) ~~The apparatus of claim 1, further comprising~~ An apparatus for optical proximity correction comprising:

a data collector configured to collect source data of an electrical circuit pattern;

an edge line detector configured to detect a plurality of edge lines each of which has a size that is less than a line width of the electrical circuit pattern;

a shape analyzer configured to classify a shape formed by adjacent edge

lines;

an edge line modifier configured to modify each of the edge lines so as to

prevent an excess optical proximity correction; and

a data synthesizer configured to generate pre-correction data from the modified

edge lines and the source data.

3.   (Original) The apparatus of claim 2, wherein the edge line modifier

further comprises a hollow modifier configured to flatten a hollow formed by the

adjacent edge lines.

4.   (Original) The apparatus of claim 2, wherein the edge line modifier

further comprises a protuberance modifier configured to flatten a protuberance formed

by the adjacent edge lines.

5.   (Original) The apparatus of claim 2, wherein the edge line modifier

further comprises a steps modifier configured to flatten steps formed by the adjacent

edge lines.

6.   (Currently amended) The apparatus of claim 1, An apparatus for optical

proximity correction comprising:

a data collector configured to collect source data of an electrical circuit pattern;

an edge line detector configured to detect a plurality of edge lines each of which

has a size that is less than a line width of the electrical circuit pattern;

an edge line modifier configured to modify each of the edge lines so as to

prevent an excess optical proximity correction; and

a data synthesizer configured to generate pre-correction data from the modified

edge lines and the source data,

wherein the edge line modifier further comprises a uniting module configured

to unite each of the edge lines and a portion of the electrical circuit pattern.

7.   (Currently amended) The apparatus of claim 1, further comprising a

model data storage unit configured to ~~storage~~ store the source data as model data.

8.   (Original) The apparatus of claim 7, further comprising an optical

proximity correction module configured to set the model data as a target projection

image and correct the pre-correction data and generate a corrected data.

9.   (Currently amended) ~~The apparatus of claim 8, further comprising~~ An

apparatus for optical proximity correction comprising:

a data collector configured to collect source data of an electrical circuit pattern;

an edge line detector configured to detect a plurality of edge lines each of which

has a size that is less than a line width of the electrical circuit pattern;

an edge line modifier configured to modify each of the edge lines so as to prevent an excess optical proximity correction;

a data synthesizer configured to generate pre-correction data from the modified edge lines and the source data;

a model data storage unit configured to store the source data as model data;

an optical proximity correction module configured to set the model data as a target projection image and correct the pre-correction data and generate a corrected data; and

an error detector configured to judge whether a simulated projection image calculated from the corrected data fulfills required conditions of the electrical circuit.

10. (Currently amended) A computer implemented method for optical proximity correction comprising:

collecting source data of an electrical circuit pattern;

detecting a plurality of edge lines each of which has a size that is less than a line width of the electrical circuit pattern from the source data;

modifying each of the edge lines so as to prevent an excess optical proximity correction from providing incorrect data; and

generating pre-correction data from the modified edge lines and the source data, the pre-correction data to be corrected by an optical proximity correction.

11.   (Currently amended) ~~The method of claim 10, further comprising~~ A computer implemented method for optical proximity correction comprising:

collecting source data of an electrical circuit pattern;

detecting a plurality of edge lines each of which has a size that is less than a line width of the electrical circuit pattern;

classifying a shape formed by the adjacent edge lines;

modifying each of the edge lines so as to prevent an excess optical proximity correction; and

generating pre-correction data from the modified edge lines and the source data.

12.   (Original) The method of claim 11, wherein the modifying of each of the edge lines further comprises flattening a hollow formed by the edge lines.

13.   (Original) The method of claim 11, wherein the modifying of each of the edge lines further comprises flattening a protuberance formed by the edge lines.

14.   (Original) The method of claim 11, wherein the modifying of each of the edge lines further comprises flattening steps formed by the edge lines.

15.   (Currently amended) ~~The method of claim 10,~~ A computer implemented method for optical proximity correction comprising:

collecting source data of an electrical circuit pattern;

detecting a plurality of edge lines each of which has a size that is less than a line width of the electrical circuit pattern;

modifying each of the edge lines so as to prevent an excess optical proximity correction; and

generating pre-correction data from the modified edge lines and the source data, wherein the modifying of each of the edge lines further comprises uniting each of the edge lines and a portion of the electrical circuit pattern.

16.   (Original) The method of claim 10, further comprising setting the model data as a target projection image and correcting the pre-correction data and generating a corrected data.

17.   (Currently amended) ~~The method of claim 16, further comprising~~ A computer implemented method for optical proximity correction comprising:

collecting source data of an electrical circuit pattern;

detecting a plurality of edge lines each of which has a size that is less than a line width of the electrical circuit pattern;

modifying each of the edge lines so as to prevent an excess optical proximity correction;

generating pre-correction data from the modified edge lines and the source data;

setting the model data as a target projection image and correcting the pre-correction data and generating a corrected data; and

determining whether a simulated projection image calculated from the corrected

data fulfills required conditions of the electrical circuit.

18.   (Currently amended) A computer program product for controlling a

computer system so as to correct an optical proximity effect, the computer program

product comprising:

instructions configured to collect a source data of an electrical circuit pattern

stored in the computer system;

instructions configured to detect a plurality of edge lines each of which has a size

that is less than a line width of the electrical circuit pattern from the source data;

instructions configured to modify each of the edge lines so as to prevent an

excess optical proximity correction from providing incorrect data; and

instructions configured to generate pre-correction data from the modified edge

lines and the source data, the pre-correction data to be corrected by an optical proximity

correction.